WHAT IS CLAIMED IS:

1. A current control method comprising:

varying a value of a current required for an amplifier to operate, in response to an operational frequency of said amplifier when said current is supplied to said amplifier.

2. A current supply circuit for supplying a current required for an amplifier to operate, comprising:

current switching means which receives a current control signal delivered responsive of switching between operational frequencies of said amplifier to switch between currents to be supplied to said amplifier.

3. A semiconductor circuit comprising:

a plurality of amplifiers; and

current switching means which receives a current control signal delivered responsive of switching between operational frequencies of said amplifier to switch between currents to be supplied to said plurality of amplifiers.

4. The semiconductor circuit according to claim 3, further comprising:

a bias circuit which is connected to each of said plurality of amplifiers to supply a bias current to said

amplifier, wherein

said current switching means switches between currents to be delivered to said bias circuit to thereby switch between currents to be supplied to said plurality of amplifiers.

5. The semiconductor circuit according to claim 3, wherein

said current switching means collectively switches between currents to be supplied to said plurality of amplifiers.

6. The semiconductor circuit according to claim 4, wherein

said current switching means collectively switches between currents to be supplied to said plurality of amplifiers.

7. The semiconductor circuit according to claim 3, wherein

said current switching means is provided corresponding to each of said plurality of amplifiers to switch between currents to be supplied to an amplifier connected to itself.

8. The semiconductor circuit according to claim 4, wherein

said current switching means is provided corresponding to each of said plurality of amplifiers to switch between currents to be supplied to an amplifier connected to itself.

9. The semiconductor circuit according to claim 5, wherein

said current switching means is provided corresponding to each of said plurality of amplifiers to switch between currents to be supplied to an amplifier connected to itself.

10. The semiconductor circuit according to claim 6, wherein

said current switching means is provided corresponding to each of said plurality of amplifiers to switch between currents to be supplied to an amplifier connected to itself.

11. The semiconductor circuit according to claim 3, wherein

said current switching means is a circuit formed of a plurality of current paths arranged in parallel to each other, and

each of the current paths includes a transistor circuit with a gate terminal and a drain terminal short-circuited and a switching circuit.

12. The semiconductor circuit according to claim 4, wherein

said current switching means is a circuit formed of a plurality of current paths arranged in parallel to each other, and

each of the current paths includes a transistor circuit with a gate terminal and a drain terminal short-circuited and a switching circuit.

13. The semiconductor circuit according to claim 5, wherein

said current switching means is a circuit formed of a plurality of current paths arranged in parallel to each other, and

each of the current paths includes a transistor circuit with a gate terminal and a drain terminal short-circuited and a switching circuit.

14. An analog-to-digital converter comprising:

a plurality of sub-AD converter circuits connected in series;

an amplifier which is interposed between sub-AD converter circuits to amplify an input signal to a sub-AD converter circuit at the next stage; and

current switching means which receives a current control signal delivered responsive of switching between operational frequencies of said amplifier to switch between currents to be supplied to said amplifier.

15. An electronic device comprising:

a plurality of amplifiers;

current control means which controls a current to be supplied to said amplifier responsive of switching between operational frequencies of said amplifier, and

current switching means which receives a current control signal delivered by said current control means to switch between currents to be supplied to said plurality of amplifiers.

16. An electronic device comprising:

an AD converter which comprises a plurality of sub-AD converter circuits connected in series, an amplifier which is interposed between sub-AD converter circuits to amplify an input signal to a sub-AD converter circuit at the next stage, and current switching means which switches currents to be supplied to said amplifier;

frequency control means which switches operational frequency of said amplifier; and

current control means which transmits a current control signal to said current switching means for controlling a current to be supplied to said amplifier responsive of switching between operational frequencies of said amplifier,

wherein, when said AD converter converts input signals of a plurality of series in a time division manner, said frequency control means switches the operational frequency responsive to the number of said series.

17. A electronic device according to claim 16, wherein

said operational frequency is increased by said frequency

control means as the number of said series becomes larger,

and wherein said current to be provided to said amplifier is increased by the current control means as said operational frequency becomes higher.

18. A receiver, comprising:

a plurality of antennas;

an AD converter which comprises a plurality of sub-AD converter circuits connected in series, an amplifier which is interposed between sub-AD converter circuits to amplify an input signal to a sub-AD converter circuit at the next stage, and current switching means which switches currents to be supplied to said amplifier;

frequency control means which switches operational frequency of said amplifier; and

current control means which transmits a current control signal to said current switching means for controlling a current to be supplied to said amplifier responsive of switching between operational frequencies of said amplifier,

wherein, when said AD converter converts input signals of a plurality of series, which are received by said plurality of antennas, in a time division manner, said frequency control means switches the operational frequency responsive to the number of said series.

19. A receiver according to claim 18, wherein,

when the receiver is operated in a mode where analog signals are received by one antenna, the frequency control means specifies lower operational frequency than an operational frequency in a diversity reception mode where analog signals are received by a plurality of antennas.

20. A receiver according to claim 19, wherein

said current control means increases said current to be supplied to said amplifier as said operational frequency becomes higher.